

WHAT IS CLAIMED IS:

1. A powder-sintered multi-layer tool part comprising:

a first super hardness metal layer containing a vanadium carbide powder 20-90% by weight and a pure titanium powder or a titanium alloy powder 10-80% by weight, said titanium alloy powder containing a titanium component 60% by weight or more, thereby forming an aggregate mixed powder of 100% by weight and having a predetermined high hardness; and

10 a second soft metal layer having a mounting part and containing said pure titanium powder or said titanium alloy powder 100% by weight, wherein the metal powders of said first super hardness metal layer and said second soft metal layer are integrally pressed and sintered under a predetermined temperature.

2. The tool part as defined in claim 1 further comprising cobalt powder of 2-10% by weight respectively added to said first super hardness metal layer and said second soft metal layer.

15 3. The tool part as defined in claim 1 or 2, wherein said first super hardness metal layer has a hardness range of HRA 70 to HRA 95 by Rockwell Hardness Number, and said second soft metal layer has a hardness HRA 70 or less by Rockwell Hardness Number.

20 4. The tool part as defined in claim 1 or 2, wherein the predetermined temperature is 1,500 degrees Celsius or less.

5. The tool part as defined in claim 1 or 2, wherein said second soft metal layer is mounted to industrial tools by welding or screw coupling.

6. A manufacturing method of powder-sintered multi-layer tool part comprising the steps of:

25 forming a first super hardness metal layer containing a vanadium carbide

powder 20-90% by weight and a pure titanium powder or a titanium alloy powder 10-80% by weight, said titanium alloy powder containing a titanium component 60% by weight or more, thereby forming an aggregate mixed powder of 100% by weight and having a predetermined high hardness:

5 powder-forming a second soft metal layer having a mounting part and containing said pure titanium powder or said titanium alloy powder 100 % by weight; and

10 filling said metal powders of said first super hardness metal layer and said second soft metal layer in a mold for integral pressing and sintering said first super hardness metal layer and said second soft metal layer under a predetermined temperature.

7. The method as defined in claim 7 further comprising a step of adding cobalt powder of 2-10% by weight respectively to said first super hardness metal layer and said second soft metal layer.

15 8. The method as defined in claim 6 or 7, wherein said first super hardness metal layer has a hardness range of HRA 70 to HRA 95 by Rockwell Hardness Number, and said second soft metal layer has a hardness HRA 70 or less by Rockwell Hardness Number.

9. The tool part as defined in claim 6 or 7, wherein the predetermined temperature
20 is 1,500 degrees Celsius or less.

10. The method as defined in claim 6 or 7, wherein said second soft metal layer is mounted to industrial tools by welding or screw coupling.